```
InsertionSort(int[] arr)

  FOR i = 1 to arr.length

    int j <-- i - 1
    int temp <-- arr[i]

    WHILE j >= 0 AND temp < arr[j]
      arr[j + 1] <-- arr[j]
      j <-- j - 1

    arr[j + 1] <-- temp
```

Sample Arrays:

Arr = [8, 4, 23, 42, 16, 15]

1). at i = 1 ⇒ j = 0 and temp = arr[1] = 4

while • arr[0+1] = arr[0] ⇒ arr = [1] = 8

• j = -1

• arr[-1+1] = temp ⇒ arr[0] = 4

New arr = [4, 8, 23, 42, 16, 15]

2). at i = 2 j = i - 1 ⇒ j = 1 and temp = arr[2] = 23

while • arr[1+1] = a[1] ⇒ arr[2] = 8

• j = 0

• arr[0+1] = a[0] ⇒ arr[1] = 4

$j = -1$

- $a[0] = 23$

So the new array will be $arr[23, 4, 8, 42, 16, 15]$

3) at $i = 3$, $j = 3 - 1 = 2$ and $tem = arr[3] = 42$

while: $arr[2+1] = arr[2] \Rightarrow arr[3] = 8$

- $j = 2 - 1 = 1$

$arr[1+1] = arr[1] \Rightarrow arr[2] = 23$

⋮